

EMERGENCY READINESS ASSURANCE PLAN FY 2006 -2009

1. Executive Summary:

Jefferson Lab's Emergency Management (EM) program is mature and optimally aligned to the threat risks for the facility. It contains the elements prescribed by DOE Order 151.C for a non-nuclear, program-dedicated accelerator facility such as JLab. The EM program is subject to continuous improvement via lessons learned, better technology, and innovations by Lab staff. Aspects of preparedness, response, and post-event recovery are integrated into virtually all Lab operations. The subcontracted security force and the accelerator operation crew chiefs and operators are important assets for early awareness of emergent situations and prompt initiation of intervention and control measures. Nearly all information needed by Lab staff to prepare for and respond to emergencies is accessible on the JLab web site.

The program benefits from strong management support. In addition, JLab has excellent relations with the local emergency operations center (EOC) and high-priority response by local community fire, emergency medical, and law enforcement agencies. The Lab benefits from regular inclusion of representatives from these services in Lab exercises and drills.

The 2005 Peer Review of JLab's EM program gave strong validation to the Lab's policies, processes, and procedures for emergency management. Quoting from the Review Panel's report: There was a general consensus among the panel members that the Jefferson Lab continues to demonstrate a very efficient and effective Emergency Management Program that is strongly supported by management... We have concluded that the Jefferson Lab Emergency Management Program is rated as "Outstanding" or a numerical rating of 95%.

a. Significant Changes since Last ERAP Submission

The Severe Weather Appendix to the Lab's EH&S Manual was revised during FY2006. Among the changes: The stages of JLab hurricane preparations are now directly correlated to the National Weather Service (NWS) hierarchy of advisories for approaching storms.

An existing teleconferencing capability has been added to existing options for members of the Director's Command Staff (DCS) to confer and manage a site emergency regardless of their respective locations.

JLab proactively initiated development of an Avian Influenza Pandemic response and operations plan. Related to this is an informational campaign by the JLab Occupational Medical Group for the benefit of staff, subcontractors, and users.

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A majority of the Lab's mobile structures (office trailers) were removed from the site in FY 2006. These were especially vulnerable to high winds and present challenges in planning for alerting occupants and evacuation.

b. Significant Planned Activities for FY 2007

Complete Pandemic Response Plan with details down to individual department group level.

Offer our training and educational resources to local EM community for topics where JLab has expertise, such as radiological control, cryogenic incidents, and non-ionizing radiation hazards and controls. In particular, offer a "workshop" on use of radiation survey instruments. The optimum venue for this may be at the annual Emergency Response Conference.

c. Corrective Actions & Resource Requirements

There are no open EM findings or corrective actions pending.

d. Achievements since the Last ERAP Submission (Relative to goals, objectives, etc set in FY 2005 ERAP.

Exercises and Drills: The Lab conducted more than the target number of exercises during FY 2006, however, the topics were changed for several because of emergent issues (e.g. Avian Flu Pandemic). See Section 7 for details of exercises – planned and conducted.

<u>Interaction with Local Emergency Response Resources:</u> Three exercises during FY 2006 involved representatives of local community or emergency planners and response agencies. These included: Regional EOC, the local public health department, fire, emergency medical, and tactical rescue services.

<u>Security Services</u>: A new subcontract for site security services was awarded on a best-value basis in November, 2005. There was a significant increase in scope of services to be provided. Among the changes in requirements are increased security drills, exercises, and in-service training. These have contributed in tangible ways to the Lab's overall emergency management posture.

<u>Winter Weather:</u> A modest snow storm afforded an opportunity to test revisions to the Lab's Snow-Removal Plan. These revisions were directed toward avoiding slips and falls on icy surfaces such as those in previous frozen precipitation episodes. An extensive employee hazard-awareness campaign was augmented by changes in treating icy surfaces. A new, folding sign was installed at the Lab main road entrance, advising entrants that there may be "black ice" conditions.

e. NIMS Implementation Status

This is a new contract requirement for JSA. NIMS-based procedures and processes will be developed and initiated during FY 2007.



f. Compliance with DOE Order 151.1C

This is a new contract requirement for JSA. While JLab's current EM program aligns closely with a graded implementation of DOE O-151.1C, a full evaluation of Order requirements will be conducted in FY 2007, and existing EM program elements modified as needed.

2. Program Description: . Rationale for Determining

a. Base or Hazardous Material Program

The US Department of Energy formerly classified Jefferson Lab as a low-hazard, non-nuclear accelerator facility when it became operational. This term is no longer in use as a DOE facility category, but it remains an accurate description of this facility.

Jefferson Lab is subject to operational emergencies such as fires and hurricanes and therefore meets the criteria for a Base Program. No foreseeable set of circumstances at this facility could result in meeting the criteria for radioactive or hazardous material release that would rise to the level (10% of the applicable protective action criteria at or beyond the facility boundary) of an Alert.

b. Status of Emergency Plan and Implementing Procedures

The Emergency Management Plan in effect was revised and approved on March 31, 2006 and is implemented. The Plan is documented in the Lab's EH&S Manual as Chapter 3510 including Technical Appendices 1 through 9, and it is reviewed annually to ensure it remains current.

c. Concept of Operations for Emergency Response Organization

Jefferson Lab relies upon the City of Newport News for fire, police, rescue, HAZMAT, and emergency medical response. Only the Lab's physician and nurse are trained and required to respond to medical emergencies. No other Lab employees are required by job description or any emergency plan to take aggressive action against a fire or other severe threat to people, property, or the environment.

JLab accelerator operators, who are on shift work for about eight months of the year, are trained to approach problem areas and sample the environment with instruments, secure power if necessary, and perform other helpful operational tasks that will minimize the damage. In addition, our emergency plan does call for specific employees by position or name to act in specific leadership and management roles during crises. These roles are functional extensions of their daily jobs.

3. Exemptions: (see instructions for completing Table 3).

Table 3 – Exemptions NO EXEMPTIONS REQUESTED

Exemption Reason	Date of Submission	Approval Date	Duration
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4. Hazards Surveys/Hazards Assessments: (See instructions for completing Table 4).

a. Status of Hazard Surveys

Table 4.1 - Hazards Survey Status

Table 4.1 - Hazarus Burvey Status					
Building/Facility	Last Review Date	Scheduled Review Date	Status Update		
Accelerator & Experimental Halls Final Safety Assessment Document (FSAD), Rev. 5.	November, 2002	In advance of changes in beam power or energy	Draft revision in review process at present.		
Accelerator Site: Rev. 5 Fire Hazard Analysis	August, 2004	Every 3 years (based upon NFPA criteria), Or after significant change to structure or systems.			
Fire Hazard Analysis for High-Value Structures	August, 2005	Structure value (maximum credible fire loss) & frequency: >\$50M: Annually \$10-50M: Two years <\$10M: Three years			
Entire Site EH&S Manual Chapter 2410-T1, JLab Hazards Issue List	August, 2003	Three years	NA		
Mission-Essential Facilities Highly Protected Risk Assessment	August, 2004	None specified	NA		
Entire Site Facility Hazard Survey (in support of contract transition from SURA to JSA)	May, 2006	One-time event	NA		

b. Generic Types of Operational Emergencies

- An occurrence (severe weather, fire, explosion) that causes or can reasonably be expected to cause significant structural damage with potential personnel injury, death, or substantial degradation of health and safety.
- An occurrence that precludes safe transit to, from, and on the site (severe weather).
- A major and sustained loss of utilities to the site (water, electricity, telecommunications, natural gas) that compromises personnel safety, property protection, or Lab operations.
- Hostile or intentionally destructive actions or the taking of hostages.
- Actual or threatened workplace violence.



- An offsite event not associated with Jefferson Lab operations that is observed or is predicted to affect Jefferson Lab such that protective actions are required on site. (A hazardous material transportation incident, for example.)
- c. (Applies to hazardous materials programs only.)

 Table 4.2 - Emergency Preparedness Hazard Assessments Status:

Not Applicable

Building/Facility	Planned Completion Date	Completion Date	Review Date (annually)
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d. (applies to hazardous materials programs only.)

Table 4.3 - Dominant Potential Operational Emergencies – Not Applicable

Facility	Emergency Class	Radionuclide/Chemical-Material

5. External Coordination:

a. Activities Involving External Emergency Response Organizations

JLab maintains an excellent working relationship with the regional Emergency Operations Center, and EOC members have participated in Jefferson Lab tabletop exercises. Jefferson Lab is specifically addressed in the local Emergency Operations Plan (EOP). JLab has representation on the Regional Emergency Planning Committee. Recent site exercises have included local emergency responders in the planning and conduct of the events.

b. Current or In-Progress Memoranda of Understandings, Memoranda of Agreements, and other Mutual Aid Agreements

Table 5 - Onsite/Offsite Agreements

MOU/MOA/ MAA	Date of Agreement	Expiration	Date of Renewal
City of Newport News Fire Department	September 27, 2001	Indefinite	Upon change of the Fire Chief
City of Newport News Police Department	9/9/2005	Indefinite	Upon change of the Police Chief
NASA Langley Research Center & JLab for Alternate COOP Location for NLRC		Pending	

Jefferson Lab's Medical Director is also affiliated with Riverside Hospital, the nearest level-2 trauma center. The hospital is informed and able to treat effectively acute injuries or illnesses related to JLab operations.



6. Training:

a. Training Programs

Table 6 - Emergency Management Training Summary

Table 6 - Emergency Management Training Summary					
Topic Area (i.e., Incident Command, EOC, JIC, etc.)	Type of Personnel (EOC, Monitoring Teams, Fire, Medical, etc.)	Percent Trained	Total Number Requiring Training		
Occupational Epidemiology	Medical Staff	100%	2		
Assets Protection I, Industrial Security	Security Officer	100%	1		
Assets Protection II Industrial Security	Security Officer	100%	1		
Certified Hazardous Material Manager Training	Chemical Staff	100%	3		
Incident Commander	Emergency Manager	100%	1		
FEMA ICS-300 Intermediate Incident Command	Emergency Manager	100%	1		
PAA Coordinator Training	Emergency Manager	100%	1		
Condition Assessment Survey Training	Civil Engineering	100%	1		
CPR for Health Care Providers	Medical Staff	100%	2		
Emergency Medical Technician, Basic	Medical Staff	100%	1		
Emergency, An Employer's Perspective	Medical Staff	100%	2		
Emergency Medical Support – An Introduction	Medical Staff	100%	3		
Fire Safety	Laboratory Staff, Subcontractors & Users	100%	~165		
CPR/AED	Laboratory Staff & Subcontractors	100%	~200		
Chemical safety (8-hr HAZWOPER refresher)	Chemical Assistance Team	100%	2		
Hydrofluoric acid safety & first aid	Chem Room Personnel	100%	~60		
Security Awareness	Laboratory Staff, Users, Subcontractors	100%	881		
Radiation Training (any of 4 levels)	Laboratory Staff, Users, Subcontractors	100%	2870		



Topic Area (i.e., Incident Command, EOC, JIC, etc.)	Type of Personnel (EOC, Monitoring Teams, Fire, Medical, etc.)	Percent Trained	Total Number Requiring Training
Mail Handling (Suspicious Mail & Packages)	Mail Room Subcontractor staff (& JLab SOTR)	100%	7 (+ 1)

- **b. NIMS Training Completion:** Plan for implementing this new contract requirement in FY 2007: The extent and level of implementation will be proportional to the nature and magnitude of threats to JLab and its interaction with off-site emergency responders. Familiarization sessions for key personnel will be provided in FY07.
- **c. ERO Training:** ERO responsibilities are limited to JLab medical staff. The Lab relies on local fire, EMS, police, and specialized response teams for site emergencies.
- d. 2006 Training Completion Relative to Goals: Required training is current.
- e. Circumstances Prohibiting Fulfilling Training Requirements: See (b) above and Sections 1.e & 1.f.

7. Exercises:

a. Overall Objectives for Exercise Programs for FY 2007

- Promote staff awareness to detect and report abnormal conditions that have potential to become an emergency.
- Evaluate and improve emergency communications systems and procedures.
- Work with local government to plan and conduct joint exercises.
- Identify and use opportunities for interaction with regional emergency organizations.
- Derive maximum training benefit from all planned Lab activities with EM aspects.
- Whenever feasible, analyze actual events for EM proficiencies and improvement areas, promulgate lessons-learned, and recommend changes based upon the experience.

b. Exercises for Fiscal Year 2006

Table 7 – Planned Drills/Exercises

Projected Date	Category (H&S Environ., S&S Offsite, DOE Trans, Hazmat)	Impacted Facility	Proposed Activity (Training/Drill/ Annual Exercise/ Full Participation Exercise, Actual Event)	Hazard to be Simulated (Based on Site Hazards)
1 st Qtr 07	Crisis Assessment	Applied Research Center	Training Drill for Security Guards	Dealing with a Suicide attempt
2 nd Qtr 07	Fire	Free Electron Laser Facility	Site Exercise*	Injuries



Projected Date	Category (H&S Environ., S&S Offsite, DOE Trans, Hazmat)	Impacted Facility	Proposed Activity (Training/Drill/ Annual Exercise/ Full Participation Exercise, Actual Event)	Hazard to be Simulated (Based on Site Hazards)
3 rd Qtr 07	HAZMAT	Building 58	Tabletop Exercise for Chemical Assistance Team	Acid Spill
4 th Qtr 07	Radiation	Tunnel	Tabletop Exercise for Crew Chiefs, Machine Operators, & Radcon	Loss of shielding leads to overexposure
Quarterly	Quarterly Tests of emergency-shower alarm systems			
Quarterly	Tests of emergency paging system			
Annually	Annually Fire evacuation drill for normally occupied buildings			

^{*} Involves outside assistance from fire department, police, or other municipal responders.

8. Evaluations, Appraisals, and Assessments:

Table 8 - Emergency Management Evaluation, Appraisal, and Assessments Schedule

FY/Quarter	Activity	Conducting Organization
2007, 4 th Qtr.	Corporate Assessment	CSC Affiliate TBD

9. Findings and Corrective Actions:

a. With a focus on major findings (identified through internal and/or external sources), provide in narrative format a summary of evaluation/appraisal findings that were resolved during FY 2006. Address each completed finding separately and identify the source of the finding (SP-43, Site Office, Self-Assessment, etc.).

Activity or Source of Finding	Findings	Resolved?
	Develop flow charts for actions in various foreseeable events.—Use events that have already occurred as model.	Yes
	Review the roles and responsibilities of the DCS in regard to standing memberships and activation guidance.	Yes
2005 EM Peer Review	Consider consolidation of emergency radio communications into a single frequency and investigate compatibility issues with local community responders.	Yes
	Increase the frequency of full participation exercises, in lieu of table top exercises, incorporating well-defined objectives and external (community) evaluators.	Yes



Activity or Source of Finding	Findings	Resolved?
Post-Event Critique following Hurricane Ophelia (Self-Assessment)	Review the Hurricane Checklists. Re-write to clarify who does what; and who to contact if there is a concern. Write them to address the target audience.	Yes
	JLab weather advisories should correlate to those used by the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service.	Yes
	Provide templates of emergency messages for use by Director and his back-up.	Yes
	Make graphs or charts of building hazards and where they are located. Example: Utilities for building	Yes

b. With a focus on major findings (identified through internal and/or external sources), and following the table format below, summarize outstanding evaluation/appraisal findings. (Note: Include findings listed in the FY 2005 ERAP that have not been resolved):

Table 9 - Status of Outstanding Findings/Corrective Actions (as reported in CATS) **None Outstanding**

Brief Summary of Finding (& source)	Brief Summary of Corrective Action	Due Date	Status	Projected Completion
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10. Resource Requirements:

a. Provide the total number of both Federal and contractor full and part-time site/facility personnel requirements for FY 2007. Break information down by Federal and contractor staff levels. For any changes in staffing levels, provide justification.

Table 10.1 - Emergency Management Personnel - Full Time Equivalent

Organization	FY 07		
Federal	0.025		
Contractor (JSA)	0.5		
Justification No change			

Table 10.2 - Emergency Management Operational Budget

	Organization	FY 07
Federal		\$2K
Contractor		\$57.4K
Justification:	FY 2006 amount with inflation adjustment	



Table 10.3 - Emergency Management Equipment Requirements

Organization Organization	FY 07		
Federal	\$0		
Contractor	\$8K		
Justification (see below)			

Contractor Item(s)	Est. Cost
Replacement/upgrade of wireless-network-capable laptop computer for DCS Operations Centers	\$2.5K
Satellite phones for DCS for use when regular cellular and wired telephone service is damaged or impaired by local conditions.	\$5K
Weather-Alert radios with S.A.M.E. capability (Replace older, non-SAME devices currently in use & replace defective units as required.)	\$0.5K

11. Other:

Briefly discuss concerns pertinent to the emergency readiness assurance program. Specifically, this section is for issues that are unique to the site/facility that need to be brought to the attention of senior management (i.e., concerns with state and local agencies, funding, resources, etc.). Include suggestions or methods to resolve these issues.

None identified.

12. Program Achievements:

In detail, describe actual achievements accomplished in FY 2006 in comparison to previously projected goals, milestones, and objectives.

FY Goals	Related Achievement(s)		
Continue participation with local governments and local businesses in promoting good security and emergency management practices in our geographic area.	Three exercises during FY 2006 involved representatives of local community or emergency planners and response agencies. These included: Regional EOC, the local public health department, fire, emergency medical, and tactical rescue services.		
Make use of higher contractual standards for inservice training and drills for new subcontracted security force.	Security service has greatly increased its drills, exercises, and in-service sessions for its staff and has improved quality of related documentation.		



FY Goals	Related Achievement(s)	
	Content in SAF100 (EH&S Orientation for all personnel on site) and annual Security Briefing include information on these topics.	
Continue to train new staff and new users on safety and security processes such as the detection and reporting of (1) suspicious objects and (2) unsafe practices.	A new subcontract for site security services was awarded on a best-value basis in November, 2005. There was a significant increase in scope of services to be provided. Among the changes in requirements are increased security drills, exercises, and in-service training. These have contributed in tangible ways to the Lab's overall emergency management posture.	
	An existing teleconferencing capability has been adapted to add to existing options for members of the Director's Command Staff (DCS) to confer and manage a site emergency regardless of their respective locations.	
	Decision-making for convening the Director's Command Staff and related processes have been refined.	
Continue integration of Emergency Management, Security, and Safety into the organizational decision-making processes.	The Severe Weather Appendix to the Lab's EH&S Manual was revised during FY2006. Among the changes: The stages of JLab hurricane preparations are now directly correlated to the National Weather Service (NWS) hierarchy of advisories for approaching storms.	
decision-making processes.	JLab proactively initiated development of an Avian Influenza Pandemic response and operations plan. Related to this is an informational campaign by the JLab Occupational Medical Group for the benefit of staff, subcontractors, and users.	
	A majority of the Lab's mobile structures (office trailers) were removed from the site in FY 2006. These were especially vulnerable to high winds and present challenges in planning for alerting occupants and evacuation.	

Other Achievements: Winter Weather: A modest snow storm afforded an opportunity to test revisions to the Lab's Snow-Removal Plan. These revisions were directed toward avoiding slips and falls on icy surfaces such as those in previous frozen precipitation episodes. An extensive employee hazard-awareness campaign was augmented by changes in treating icy surfaces. A new, folding sign was installed at the Lab main road entrance, advising entrants that there may be "black ice" conditions.

AEDs: JLab has maintained or slightly increased the number of staff with current CPR-AED certification. An additional AED has been positioned since FY 2005, and a diagram of all 13 AED locations is posted on EM website, with an additional link from the Occupational Health webpages.

Exercises and Drills: The Lab conducted more than the target number of exercises during FY 2006, however, the topics were changed for several because of emergent issues (e.g. Avian Flu Pandemic).



FY 2006 Exercises, Drills, and Actual Events

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Projected/ Actual Date	Category (H&S Environ., S&S Offsite, DOE Trans, Hazmat)	Impacted Facility	Proposed Activity (Training/Drill/ Annual Exercise/ Full Participation Exercise, Actual Event)	Hazard to be Simulated (Based on Site Hazards)
1 st Qtr /06	Fire	CEBAF Center Addition	Site Exercise*	Smoke, fire, evacuation
2 nd Qtr 06	Loss of Utilities	Campus Area	Training Drill for Security Guards	8-hour Power loss to Jefferson Feed
2 nd Qtr 06	H&S	Entire Site	Tabletop	Pandemic conditions in local area
2 nd Qtr 06	Severe Weather	Entire Site	Tabletop	Post-event critique of Lab response to Hurricane Ophelia
2 nd Qtr 06	S&S	Entire Site	ERD: Fire Alarm Outside Normal Working Hours ("Code Red")	Security Service Drill
3 rd Qtr 06	S&S	Entire Site	Hostage Situation ("Code Purple")	Security Service Drill
3 rd Qtr 06	S&S	Entire Site	ERD: Power Outage Outside Normal Working Hours (Code Black)	Security Service Drill
4 th Qtr 06	S&S	Entire Site	Duress Alarm Actions ("Code Gray")	Security Service Drill
4 th Qtr 06	S&S	Entire Site	ODH Alarm Response	Security Service Drill
4 th Qtr 06	Personal Injury	Below-grade utility vault	Evaluation of rescue response by local emerg responders *	Incapacitated person in confined space (Rescheduled from FY2004 due to scheduling conflict with local Fire & Rescue Training)
4 th Qtr 06	H&S	JLab Site (& within range of pagers)	Severe Weather Announcement	Site-Wide Alert via text pagers